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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/000,252	11/30/2001	Rajen Dias	42390P13269	9470

8791 7590 01/20/2004

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EXAMINER

LATTIN, CHRISTOPHER W

ART UNIT	PAPER NUMBER
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2812

DATE MAILED: 01/20/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 10/000,252	Applicant(s) DIAS ET AL.	
	Examiner Christopher W Lattin	Art Unit 2812	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 29 September 2003.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-10 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-10 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 30 November 2001 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. §§ 119 and 120

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
* See the attached detailed Office action for a list of the certified copies not received.
- 13) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application) since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.
a) ☐ The translation of the foreign language provisional application has been received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121 since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.

Attachment(s)

- | | |
|---|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s). _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1 and 4 are rejected under 35 U.S.C. 102(b) as being anticipated by Lii et al. (U.S. Patent 5,936,304).

Lii et al. teach a microelectronic device, comprising a microelectronic die 146 having an active surface, a back surface, and at least one side with one beveled sidewall 150 and at least one channel sidewall, wherein said at least one beveled sidewall extends between said channel sidewall and said microelectronic die back surface; and a gold or silver metallization layer 148 disposed on said microelectronic die back surface and said at least one beveled sidewall. See Figure 5.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 2 and 3 are rejected under 35 U.S.C. 103(a) as being unpatentable over Lii et al. (U.S. Patent 5,936,304) in view of Fukasawa et al. (U.S. Patent 6,455,920).

The Lii et al. patent is applied supra, but fails to teach the angle of the beveled edge. Fukasawa et al. teach a relationship in column 13 that would render obvious the angles 30, 45 and 60 degrees. It would have been obvious to one skilled in the art at the time of the invention to form the bevel at 30, 45 or 60 degrees in order to limit stress and crack formation in the semiconductor die.

Claims 5 and 8-10 are rejected under 35 U.S.C. 103(a) as being unpatentable over Lii et al. (U.S. Patent 5,936,304) in view of Schneider et al. (U.S. Patent 5,693,981).

Lii et al. teach a microelectronic device, comprising a microelectronic die 146 having an active surface, a back surface, and at least one side with one beveled sidewall 150 and at least one channel sidewall, wherein said at least one beveled sidewall extends between said channel sidewall and said microelectronic die back surface; and a gold or silver metallization layer 148 disposed on said microelectronic die back surface and said at least one beveled sidewall. See Figure 5. Lii et al. fail to teach the addition of a heat sink. Schneider et al. teach a microelectronic device connected to a copper heat sink in order to dissipate heat from the electronic component. See Schneider et al. column 11. It would have been obvious to one skilled in the art at the time of the invention to attach a heat sink in order to dissipate heat away from the electronic device.


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Claims 6 and 7 are rejected under 35 U.S.C. 103(a) as being unpatentable over Lii et al. (U.S. Patent 5,936,304) in view of Schneider et al. (U.S. Patent 5,693,981) as applied to claim 5 above and further in view of Fukasawa et al. (U.S. Patent 6,455,920).

The Lii et al. and Schneider et al. patents are applied supra and obviate all the limitations of the claims except the angle of the beveled edge. Fukasawa et al. teach a relationship in column 13 that would render obvious the angles 30, 45 and 60 degrees. It would have been obvious to one skilled in the art at the time of the invention to form the bevel at 30, 45 or 60 degrees in order to limit stress and crack formation in the semiconductor die.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Christopher Lattin whose telephone number is (703) 305-3017 ((571) 272-1673 after 02/03/2004). The examiner can normally be reached Monday through Friday from 8:00 A.M. to 5:00 P.M. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, John Niebling, can be reached at (703) 308-3325 ((571) 272-1679 after 02/03/2004). The fax number for this Group is (703) 872-9306. Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Group receptionist whose telephone number is (703) 308-0956.

CWL 
January 9, 2004


John F. Niebling
Supervisory Patent Examiner
Technology Center 2800